

Amendments to the Specification:

Please replace the existing title with the following new title:

COMPUTERIZED PROCESSES AND APPARATUS FOR FAX DOCUMENT
STORAGE AND RETRIEVAL SERVING A COMMUNITY OF DIGITAL USERS

Please replace paragraph [0001] with the following amended paragraph [0001]:

"This application claims priority of U.S. Provisional Patent Application Ser. No. 60/351,568, filed on Dec. 24, 2001, entitled "Computerized Processes and Apparatus for a Community [[if]] of Digital Users Receiving an Intermittent Stream of Analog Information to Manage Their Information Environment" and also to co-pending U.S. patent application Ser. No. 09/664,969, filed on Sep. 16, 2000, entitled, "System and Method for Automatically Routing and Storing Coded Information and Displaying it on an Interaction Device," the entirety of both applications being incorporated herein by reference."

Please replace paragraph [0044] with the following amended paragraph [0044]:

[0044] FIG. 24 illustrates a user interface displaying a found ~~sound~~ unique attribute set in accordance with one embodiment of the present invention;

Please replace paragraph [0073] with the following amended paragraph [0073]:

In this embodiment Fax-To-Email system 1300 receives faxes from PSTN 1000 and creates an email message and converts the contents of the fax to a TIFF file, which is then attached to the email message. Fax-to-email system 1300 also contains a table that associates fax numbers to unique email addresses, which is the same fax number to email address mapping that has been set in a FaxRoutingInfo table 3482, as explained in more detail with reference to Figure 11. The unique email address is then employed to send this email message to mail server 3200. Mail server 3200 is configured to receive and store the email messages and makes them available to fax receiving module 3380. It is noted

that the arrangement of system 1300 and 3200 is only one example of the embodiment and the invention is not limited in scope in that respect. For example, faxes sent via PSTN 1000 can be directly transmitted to Fax Receiving Module 3380 via known communication protocols such as TCP/IP. However, the arrangement of system 1300 and server 3200 allows for a commercially convenient arrangement where the telecom infrastructure required for receiving the faxes can be outsourced to a third party provider.

Please replace paragraph [0101] with the following amended paragraph [0101]:

Customer Information Data Module 3470 as shown in Figure 13 includes Customer table 3472, which stores information about customers of the system. Customer table 3472 includes CustomerId, which uniquely identifies each customer and is used in other tables when a reference for a customer is required. CustomerName column stores the name of the customer organization. Customer table 3472 also includes CustomerCode column, which stores a text ID that is used to uniquely identify a customer. The Customer Code gives the system the flexibility of having duplicate login Ids, as there may be users across different customer organizations that have similar names. Customer table 3472 also includes SessionTimeout column, which stores a numeric value that represents the time in minutes after which the system will log out an idle user. Customer table 3472 also stores information related to a technical contact person such as the name, email address and phone of the contact in the ContactName, ContactEmail and ContactPhone columns. User Data Module 3450 includes User table 3452 as shown in Figure 14, which stores authentication and personal information for system user. User table 3452 includes column UserId, which uniquely identifies each user in the system and is used in other tables where reference for a user account is required. User table 3452 also includes LoginId column, which stores login ID for the user. Table 3452 also includes Password column that stores the user password in an encrypted manner. User table 3452 also includes a UserType column, which identifies the account type of each user (i.e. Administrative or a regular System user). User table table 3452 also includes Firstname and Lastname columns to store a user's first and last names. User table 3452 also includes CustomerId column, which stores unique Customer identifier from table Customer table 3472. User table 3452 also includes CustomerCode column, which stores information from the CustomerCode column in the Customer table 3472. Table 3452 also includes a Disable field, which used when Customer Administrators need to enable/disable user accounts.

Please replace paragraph [0102] with the following amended paragraph [0102]:

Audit Log Data Module 3440 includes table AuditAction 3442, table AuditLog 3444 and tables AuditDetailsChar 3446 and AuditDetailsNum 3448. AuditAction table 3442 as shown in Figure 15-A defines a list of actions such as explained previously, which will be audited in the system. AuditAction table includes ActionId, which uniquely identifies each action. AuditActionId is used when a reference to an action represented by a row in AuditAction table 3442 is required. AuditAction table 3442 also includes a Description field, which contains a text description of the action. The Description field may also be used to describe an action in audit reports. Table 3442 also includes a DataType field that is used by the Audit Recording Module 3342 to indicate the type of data that is being audited. A value of 1 for the field DataType in any row indicates that the action is being performed on numerical type data. A value of 2 for the field DataType in any row indicates that the action is being performed on text type of data. A NULL value for the field DataType in any row indicates that the action is of read-only nature and is not modifying any data.

Please replace paragraph [0103] with the following amended paragraph [0103]:

AuditLog table 3444 as shown in Figure 15-B includes field AuditLogId that uniquely identifies each audit log item. Field AuditLogId is used when a reference to a row in table 3444 is required. AuditLog table 3444 also includes field UserId, which represents a row from User table 3452. UserId column stores the UserId of the user performing the action being audited. AuditActionId [[is]] identifies a row in the AuditAction table 3442. AuditActionId column value represents the type of action that is under audit. AuditLog table 3444 also includes ObjectID column, which can contain the unique identifiers from various tables depending upon the data being modified. Example of such identifiers are DocumentID, DocumentPageId, UniqueCaseId or a UserId.

Please replace paragraph [0104] with the following amended paragraph [0104]:

AuditDetailsChar table 3446 as shown in Figure 15-C and AuditDetailsNum table 3448 as shown in Figure 15-D store details of the data changed during an action performed by a user, represented by a corresponding row in the AuditLog table 3444. Both tables 3446 and 3448 are similar in structure except in that table 3446 stores changes to text type of data and table 3448 stores changes to numeric type of data. Such an arrangement helps improve the performance of querying and other action related to the

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operation of Database 3400. Tables 3446 and 3448 include an AuditLogId field, which uniquely identifies a row in the AuditLog table 3444. Tables 3446 and 3448 also include a State column that indicates if a row contains information of data prior to modification or post modification. As seen in the FIGS. 15-C and 15-D, a value of 'B' (Before) in the State column indicates that the data contained in that column represents data prior to modification by the action under audit and a value of 'A' (After) indicates post modification data. Tables 3446 and 3448 also include a Data field, which stores the actual data undergoing changes, both prior to modification and post modification.

Please replace paragraph [0105] with the following amended paragraph [0105]:

Tables UniqueAttrSet1 3420 as shown in Figure 16 and UniqueAttrSet2 3430 as shown in Figure 17 are examples of the tables that make up Unique Attribute Data Module 3410. Each represents a particular type of information such as patient cases, physicians, etc. that may be used separately or in combination with each other to represent the attributes associated to a set of fax pages. Document Attribute Manager 3320 populates tables 3420, 3430 and any other table in Data Module 3410.

Please replace paragraph [0109] with the following amended paragraph [0109]:

As illustrated in FIG. 18, the process starts when a provider of medical information wishes to send paper-based information (~~medical~~ medical records) to the recipient (Customer).

Please replace paragraph [0109] with the following amended paragraph [0109]:

At Step 100, using Fax Device (1100 or 1200), sender dials a fax number associated with the Customer and initiates transmission of data. This fax data is routed to the desired destination fax number through PSTN ~~[[2000]]~~ 1000.

Please replace paragraph [0112] with the following amended paragraph [0112]:

At Step 125, Fax-To-Email system 1300 uses the fax number with which the fax was received on to retrieve the associated email address from FaxToEmail table 1302 and sets it as the destination email address of the email message. At Step 130, Fax-To-Email system 1300 sends the email message via Internet 2000.

Please replace paragraph [0114] with the following amended paragraph [0114]:

At Step 160, Storage Module 3386 of Fax Receiving Module 3380 records all the categorization parameters generated by Module 3383 such as the Customer, and if applicable the Department or Individual the fax was received for, other information such as retrieved by Module 3382 and the like into tables Document 3462 and DocumentPages 3464 of Document Data Module 3460.

Please replace paragraph [0120] with the following amended paragraph [0120]:

At Step 500 illustrated in FIG. 20, user connects to the system via Internet 2000 using a previously known web browser. At Step 505, user enters his/her authentication information namely, LoginId, Password and Customer Code. At Step 510, User Authentication Cryptography Module 3332 of Cryptography Module 3330 encrypts user entered authentication information. At Step 515, Login Module 3354 of User Module 3350 compares encrypted authentication information generated by Module 3332 against User table 3452 of User Data Module 3450. Upon successful match, at Step 520, Module 3354 looks up UserType field in User table 3452 of Data Module 3450. If user is of type 'Administrator' then he is taken to the administrative interface at step 600. If user is of type 'system user' (regular user) he is taken to a common interface where he/she can view and organize fax documents as shown in elements 700, 800, 900 and 1000.

Please replace paragraph [0123] with the following amended paragraph [0123]:

With further reference to FIGS. 20 and 21, at Step 700, Document Retrieval Module 3313 of Document Presentation Manager 3310 retrieves a list of un-reviewed faxes from Document table 3462 of Document Data Module 3460 and displays it to the user. At this point the user may choose to sort or filter the list based on the various attributes associated with the faxes. For example if the user chooses to sort all faxes by date received, user clicks on the column heading and Document Sorting and Filter Module 3312 of Module 3310 sorts the list based on receipt date and time and Module 3313 displays the sorted list to the user.

Please replace paragraph [0125] with the following amended paragraph [0125]:

With further reference to FIGS. 20 and 22, at Step 705, in response to user action (user clicks on the review link of any fax document), Document Display Module 3313 looks up the DocumentPages table 3464, retrieves the unique sequence numbers for the pages contained in the selected fax document and retrieves the corresponding images files from Document Storage and Retrieval System 3500. At Step 710, Module 3313 displays the retrieved image files to the user in a specialized image viewer (CPC viewer).

After paragraph [0133] and before paragraph [0134] please add the following new paragraph:

Upon authentication, a user may also adjust user settings at step 800.

Please replace paragraph [0138] with the following amended paragraph [0138]:

User can click on the Edit File Info button to edit the attributes associated with the Unique Case (FIG. 27) at step 910. When user clicks on the edit button (FIG. 28) and modifies associated attributes, at Step 915, Attribute Editor 3322 of Document Attribute Manager 3320 updates the corresponding fields in Unique Attribute Data Module 3410.

Please replace paragraph [0146] with the following amended paragraph [0146]:

Clinical information [[I]] 11030 is generated by the referring physician. This information includes clinical information such as diagnosis, notes of the examination of the patient, etc.[[I]] that are then conveyed to the Surgeon 11040, generally via fax. The clinical information at each stage develops and changes as more information is accrued for the patient chart.

Please replace paragraph [0155] with the following amended paragraph [0155]:

Within the hospital environment operating room schedule unit receives clinical information 11032 and booking information 11050 and generates booking information 11052. This booking information is then sent to pre-certification clearance unit 11300 through procedure scheduling 11120 and is utilized by the pre-certification clearance unit. The booking information is also sent to patient financial services unit 11620 to order the operation. For example, pre-certification clearance unit pre-certifies procedures 2 days before the procedure is performed, so booking information is necessary for the department to know which patients to work on in any given day.

Please replace paragraph [0171] with the following amended paragraph [0171]:

Patient financial services unit 11620 is involved with billing and collecting patients for treatment They receive information 11038 from pre-certification clearance 11300. The information flow in a typical hospital as discussed in reference with FIG. 29 has many problems. For example: (1) all information that is sent from surgeons' offices needs to be copied in case the documents were lost (office must retain copy); (2) it is

difficult for surgeons' offices to confirm that hospital has received any transferred information, even in the case of hand-delivery; (3) It is difficult for pre-admission testing or outside equivalent to transfer generated information to surgeons' offices; (4) it is difficult to locate a patient chart, as it can be used by any of a number of individuals who may misplace or misfile the charts, such as residents, nurses, anesthesiologists. The charts may also be in a different part of the hospital (PAT or Operating Room); (5) it is difficult to make certain that all necessary information is in the patient chart prior to surgery. Frequently a last minute request is made to the surgeon's office for missing information. If a gap is found at the last second because of missing information, operating room must remain idle until information is located, resulting in costly delays; (6) if a patient is rescheduled, the physical patient chart is in an uncertain location (OR, PAT) and may easily be misplaced; (7) pre-certification clearance often does not receive information from surgeons' offices prior to procedure, and therefore, it must call surgeons' offices to identify individual patient's insurance coverage (the chart is in PAT, and pre-certification clearance never receives a copy). Much time is wasted, and some procedures are performed without pre-certification; (8) operating room professionals, particularly residents, have difficulty accessing the patient chart prior to the procedure, as it is in demand by others; (9) if information is secured (e.g. in surgeon's office), it is difficult to access it during non-office hours; (10) after procedure is performed, the physical hospital chart is transferred to medical records. It is difficult and time-consuming to obtain the charts for clinical research or patient financial services.

Please replace paragraph [0176] with the following amended paragraph [0176]:

System 3000 overcomes many problems set forth above in reference with FIG. [[19]] 29. For example: (1) surgeons no longer need to copy all the documents. After they are faxed, their office retains the original; (2) Offices with access to system 3000 may confirm receipt and filing to the patient folder; (3) pre-admission testing staff no longer need to identify individual pieces of information to identify the surgeon or the intended recipient, such as their fax numbers. All information is sent to one number for indexing by an indexer; (4) the physical location of hospital charts becomes largely irrelevant; (5) it is easier to determine if all information is in the chart. Any information sent in at the last-minute is added to the patient's file and quickly retrieved. (6) rescheduled patient information is easily located and replicated; (7) pre-certification clearance unit has immediate access to all patient chart information and insurance information, eliminating time-consuming gathering of information from surgeons' offices; (8) operating room clinical professionals may access another copy of patient chart easily from variety of locations; (9) operating room clinical professionals may access a copy of patient chart during non-office hours via digital access; (10) post-surgery, clinical research and patient financial services may access copy of patient chart immediately and conveniently.